

## **SYSTEM AND METHOD FOR SELECTING THE PLACEMENT OF OPTICAL AMPLIFIERS IN AN OPTICAL NETWORK**

### **ABSTRACT OF THE DISCLOSURE**

**[0091]** A system and method for selecting optical amplifier placement in an optical network is disclosed. In one embodiment, a design tool is used to configure the optical add/drop multiplexers of each node. For nodes with more than a small number of nodes there are a large number of possible optical amplifier configurations. Consequently, a subset of optical amplifier placement configurations is formed. In one embodiment an algorithm is used to eliminate from consideration optical amplifier configurations unlikely to have satisfactory minimum power characteristics. In one embodiment the quality of service of each configuration of the subset is analyzed to determine an optical amplifier placement configuration having a minimal number of amplifier and a desirable quality of service.